

REMARKS

Claims 1-9 are pending in the present application. Claims 1-7 and 9 are rejected. Claims 1, 5 and 6 are herein amended. Claim 9 is herein cancelled without prejudice. New claim 10 is added herein.

Applicants' Response to Claim Objections

Claims 1, 5 and 6 were objected to because they contain amino acid sequences that require identifying SEQ ID NOs. Further, the Office Action requires that the amino acid notations are properly connected to each other. Therefore, Applicants herein amend claims 1, 5 and 6 in order to overcome this objection. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 1-7 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ferrari et al. (U.S. Patent No. 6,184,348) in view of Cook et al. (U.S. Patent No. 5,916,585).

It is the position of the Office Action that Ferrari discloses the invention as claimed, with the exception of a polyalkylenepolyamine and a sheet selected from the group consisting of polyolefin, polyurethane, polyester, polyamide, polystyrene and silicone resin. The Office Action relies on Cook to provide these teachings.

The present invention relates to a wound dressing for accelerating epidermal regeneration which comprises a polypeptide (P) having at least one species of epidermal regeneration-accelerating minimal amino acid sequences (X) selected from the group consisting of Arg-Gly-

Asp (SEQ ID NO: 1), Ile-Lys-Val-Ala-Val (SEQ ID NO: 2), and Tyr-Ile-Gly-Ser-Arg (SEQ ID NO: 3), and an auxiliary amino acid sequence (Y), a polyalkylenepolyamine and/or polyarylenepolyamine (A) having a weight average molecular weight of 2,000 to 60,000, and a sheet (S) being polyurethane, wherein the polypeptide (P) and the sheet (S) are bonded by a chemical bonding. Present amendments to claim 1 are supported at least by the specification at page 17, lines 2-6 and page 20, lines 20-22. New claim 10 is supported at least by the specification at page 17, lines 2-4 and page 20, lines 20-22. No new matter has been added.

The wound dressing of the present invention has an extremely high epidermal regeneration accelerating effect by the above constitution, namely but using the specific polypeptide (P), the specific polyalkylenepolyamine and/or polyarylenepolyamine (A) and the specific sheet (S), wherein the polypeptide (P) and the sheet (S) are bonded by chemical bonding. Therefore, the wound dressing of the present invention is well suited for the therapy of defected skin wounds and can treat wounds without burdens on patients.

On the other hand, Ferrari relates to a recombinantly produced proteinaceous polymer composition. As the Office Action recognizes, Ferrari does not teach the use of a polyalkylenepolyamine and/or polyarylenepolyamine. Moreover, Ferrari describes "the subject material may be made into or coated onto woven fabrics, films or membranes," as mentioned in the Office Action. However, Ferrari does not describe the kinds of films or membranes or even suggest polyurethane as a sheet. Furthermore, Ferrari does not disclose that a polypeptide and a sheet are bonded by chemical bonding. In addition, Ferrari does not disclose that acceleration of

epidermal regeneration and rapid cure of wounds can be obtained by using the wound dressing of the present invention having the above specific constitution.

Cook relates to a biodegradable material for immobilization of bioactive species thereon. The material of Cook includes a porous hydrophobic biodegradable support member and a first layer comprised of at least one species of polymeric surfactant, and wherein the surfactant is cross-linked to itself with a cross-linking agent. The Office Action mentions that Cook describes polyethyleneimine as the polymeric surfactant of the first layer 14, polyester and polyurethane as the porous hydrophobic biodegradable support member 12, tripeptide Arg-Gly-Asp as the bioactive species 16, and PGA:PLA fiber mesh in Example 18.

Accordingly, the bioactive species 16 is analogous to the polypeptide (P) of the present invention and the support member 12 is analogous to the sheet (S) of the present invention. However, Cook discloses that the bioactive species 16 is immobilized directly to chemical functional groups of the first layer 14 as shown in the Figures. Therefore, the bioactive species 16 are not immobilized to the hydrophobic support member 12, but rather to the first layer 14. Thus, Cook does not disclose a polypeptide and a polyurethane sheet which are bonded by chemical bonding, as required by claim 1.

Moreover, in Cook, the first layer 14 is cross-linked to itself with a cross-linking agent. See column 7, lines 58-60. The cross-linking agent does not cross-link between the first layer 14 and the hydrophobic support member 12. See claims and Figures. In Example 18 of Cook, the EGS (ethylene glycolbis-[succinimidylsuccinate]solution) used as the cross-linking agent is a

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reagent, which reacts with amino groups and does not react with the PGA:PLA fiber mesh (polyester) used as the hydrophobic support member 12.

Furthermore, Cook describes that the biodegradable material is useful for an implantable construction with immobilized bioactive species, since all components of the biodegradable material are degradable in the body of a recipient. For biodegradation, Cook describes only poly(glycolic acid) as the preferred hydrophobic support member 12 (column 10, lines 20-22), and polyurethane is not preferably used. In addition, Cook does not disclose that the acceleration of epidermal regeneration and rapid cure of wounds can be obtained by using the wound dressing of the present invention having the above specific constitution.

Accordingly, Applicants respectfully submit that the combination of references neither discloses nor suggests the wound dressing as recited by claim 1. Furthermore, the combination of references neither discloses nor suggests the above excellent effects of acceleration of epidermal regeneration and rapid cure of wounds can be obtained by using the wound dressing of the present invention having the above specific constitution. Thus, the present invention would not have been obvious to one having ordinary skill in the art at the time the invention was made. Favorable reconsideration is respectfully requested.

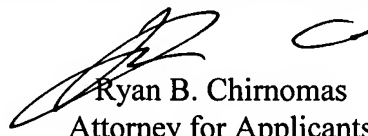
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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